Certificate of Analysis

Caffeine Standards Kit

Part No 8500-6917 **Lot No OC119043**

Concentrations:

Caffeine in water:

Nominal value	Effective value determined by UV-spectroscopy using the absorption maximum at 273 nm
50 µg/ml	49.8 µg/ml ± 2 %
25 µg/ml	24.8 µg/ml ± 2 %
5 µg/ml	5.0 µg/ml ± 2 %
1 µg/ml	1.01 µg/ml ± 3 %
0.5 µg/ml	0.52 µg/ml ± 5 %

Purity grades:

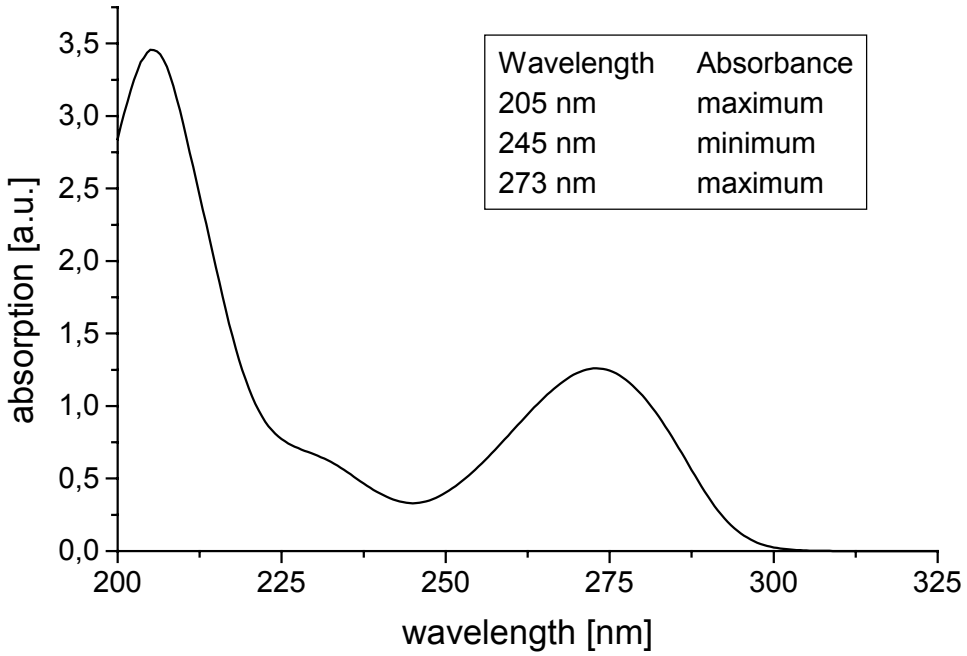
Caffeine:	extra pure, acc. to Ph. Eur.	
	Concentration (acid. titration):	98.5 – 101.5 %
	Heavy metals (as Pb):	< 0.001%
	Loss on drying (105°C):	< 0.5%
Water:	18.2 MOhm	

The standards in this kit have been produced gravimetrically using ISO 9000 quality procedures. Balances used are calibrated regulary against PTB (Physikalisch Technische Bundesanstalt [Federal Physical-Technical Institute] – Braunschweig – Germany) traceable weight sets.

The standards have been analysed on a high-performance UV/VIS/NIR spectrophotometer. The spectrophotometer is regularly validated for accuracy and reproducibility of absorbance and wavelength as well as for linearity, baseline drift, stray light and spectral resolution power using the following testing materials:

Absorbance:	NIST SRM 1930 and double aperture method
Wavelength:	NIST SRM 2034, emission lines of D_2-, Hg- and Ar-lamps
Stray light:	NIST SRM 2032
Spectral resolution power:	Half width value of D2 emission lines for checking the effective optical bandwidth

UV/VIS Spectrum Caffeine in water (concentration 25 µg/ml, path length 1 cm)



Date of release: 20.08.2001

Expiration date: 31.08.2003

Wolfgang Gernand
Analytical manager